A FEW ASTRONOMICAL INSTRUMENTS

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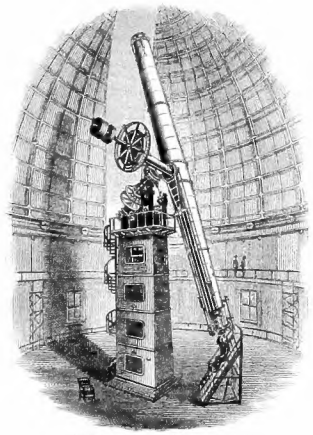

36 INCH LICK TELESCOPE

WARNER & SWASEY

W. R. WARNER.
AMBROSE SWASEY.

CLEVELAND, OHIO, U.S.A.

CABLE ADDRESS: SWASEY CLEVELAND.

May 21st, 1901

We have the pleasure to inform you that there has been sent to your address a copy of our portfolio entitled A FEW ASTRONOMICAL INSTRUMENTS which please accept with our compliments

May we ask you on its receipt to kindly return the accompanying acknowledgment

Very respectfully

WARNER & SWASEY.

ack 24/5/01

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A FEW ASTRONOMICAL INSTRUMENTS

From the works of
WARNER & SWASEY,
CLEVELAND, OHIO, U. S. A.
M D C C C C

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THE WORKS OF
WARNER & SWASEY

Introduction

THE number of leading observatories for which we have designed and made astronomical instruments affords us an opportunity to bring together a series of illustrations which we feel will not only be of general interest, but also of service in showing the magnitude and completeness of modern astronomical equipment.

We feel that the illustrations speak for themselves, and it has therefore seemed to us that a mere mention of some of the instruments and observatories would be even preferable to elaborate description.

The objectives of the three largest telescopes, those of the Yerkes, Lick and Naval Observatories, were made by Messrs. Alvan Clark & Sons, while the objectives, and, in fact, all the optical parts for the other instruments shown, are from the works of Mr. J. A. Brashear.

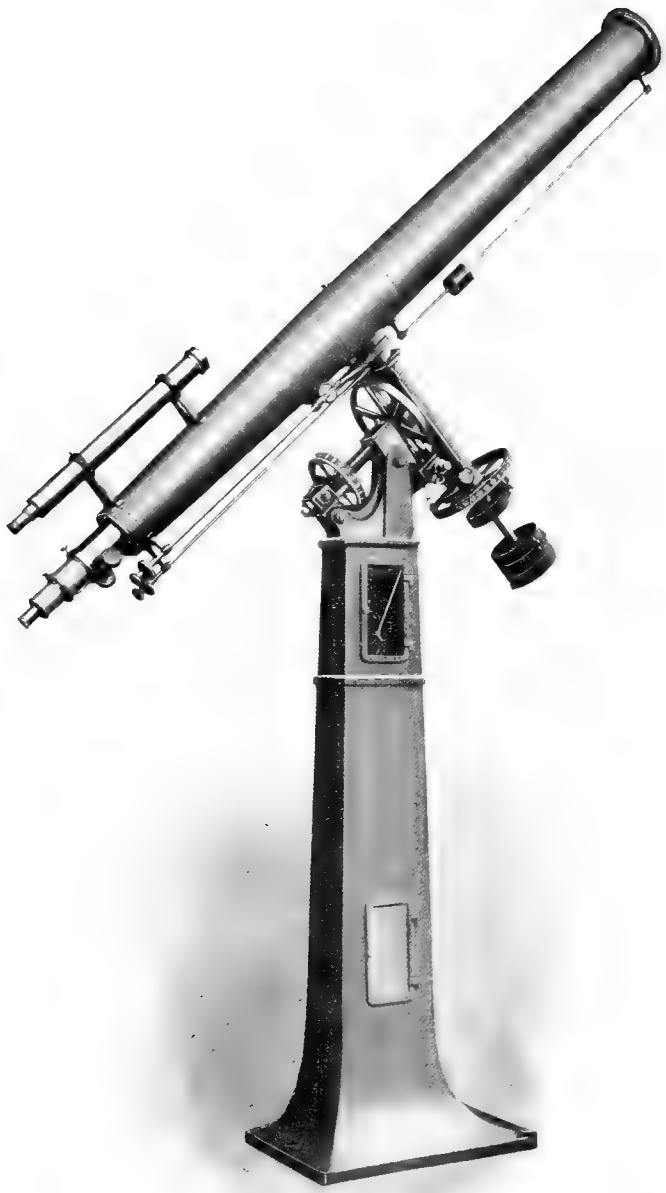
We are glad to acknowledge our indebtedness to the astronomers of the several observatories for their courtesy in supplying certain of the photographs here reproduced.

WORCESTER R. WARNER
AMBROSE SWASEY

R. M. HUNT
ARCHITECT

PRIVATE OBSERVATORY OF
MESSRS. WARNER & SWASEY

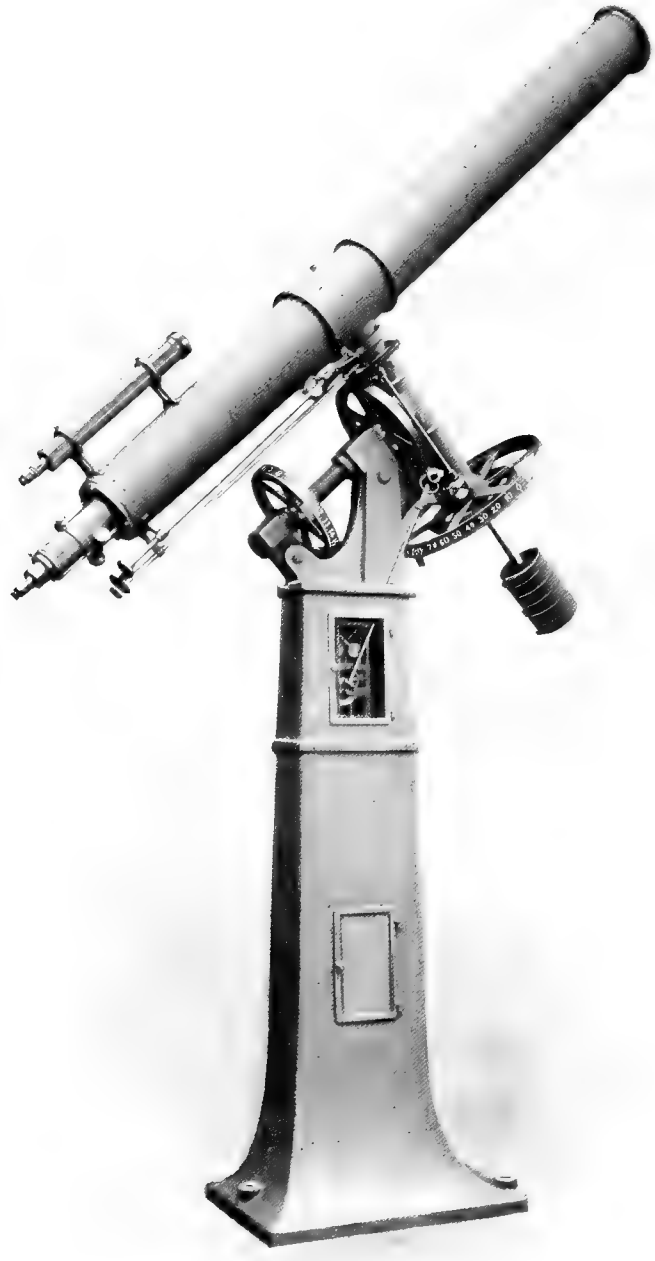
Plate I



6-INCH TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

Plate II



8-INCH TELESCOPE

FROM THE WORKS OF
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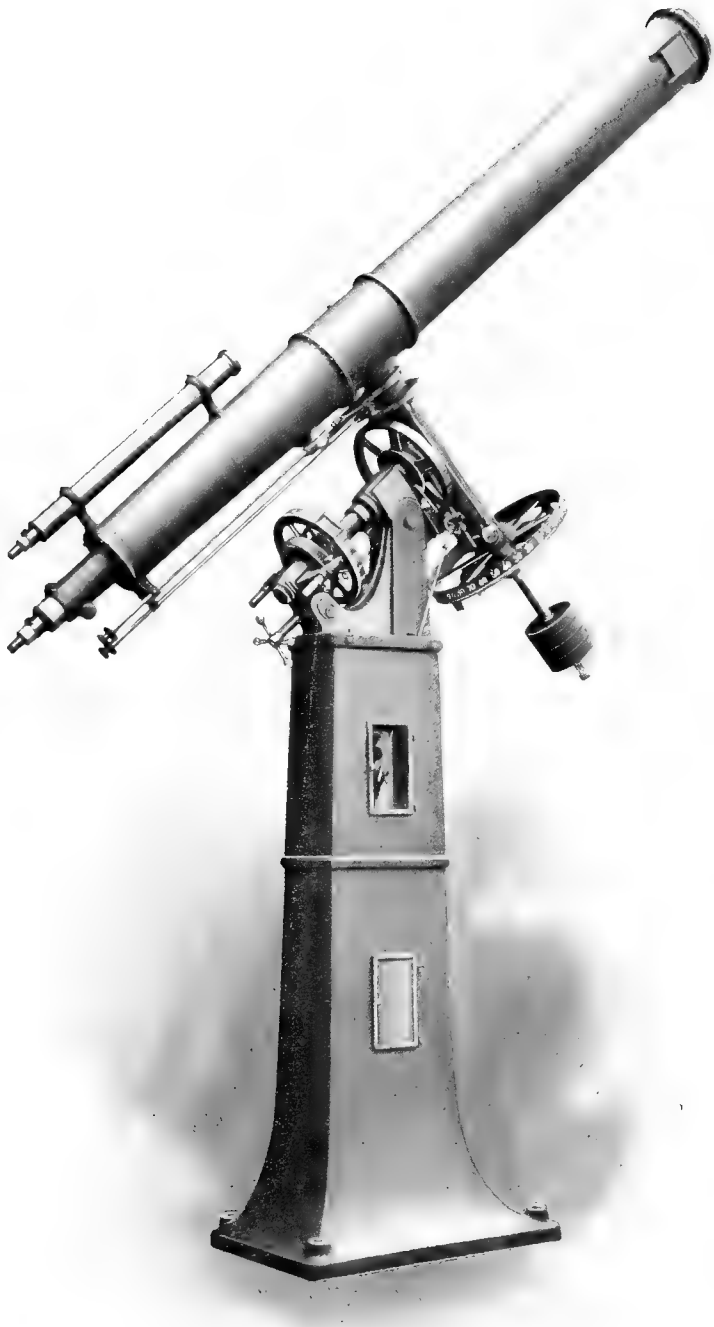
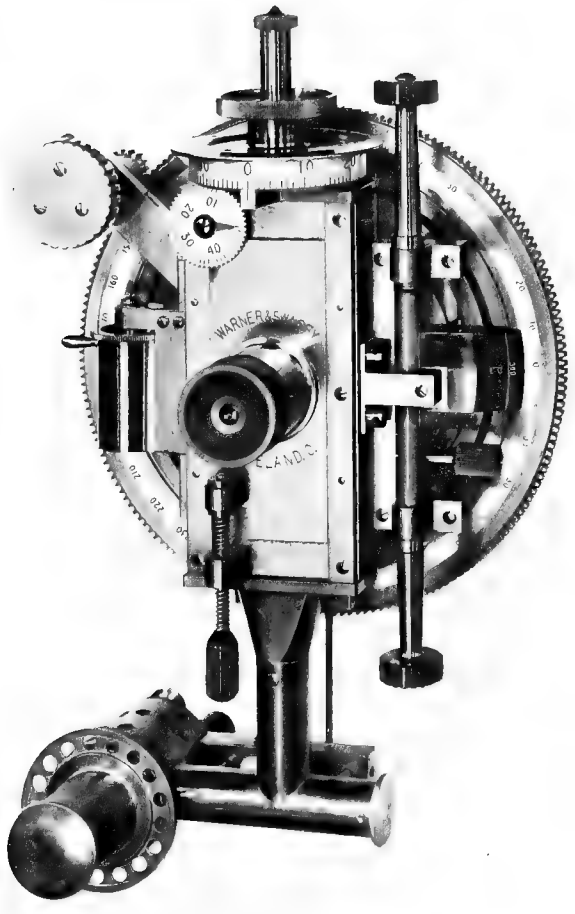
Plate III



12-INCH TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

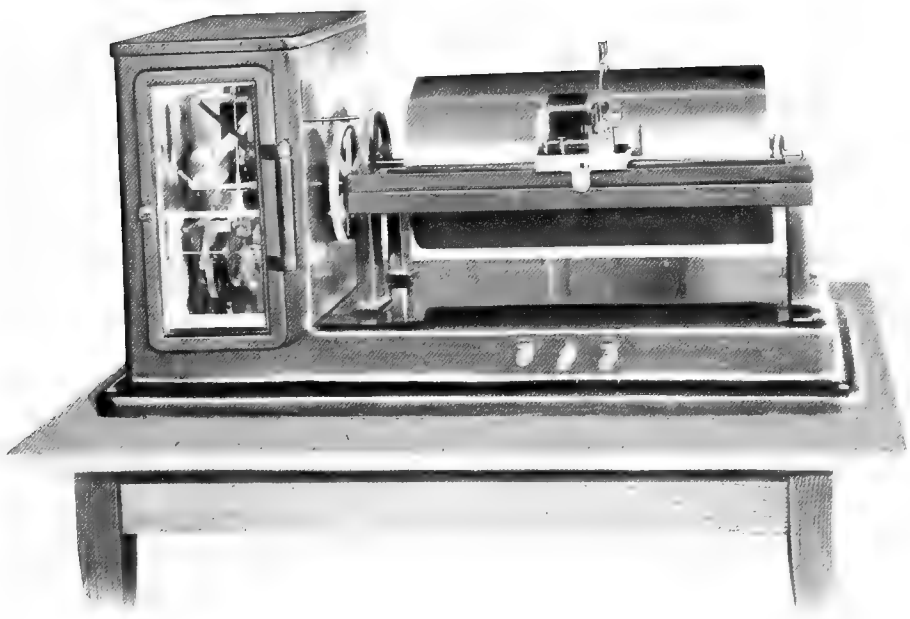
Plate IV



POSITION MICROMETER

FROM THE WORKS OF
WARNER & SWASEY

Plate V



STANDARD CHRONOGRAPH

FROM THE WORKS OF
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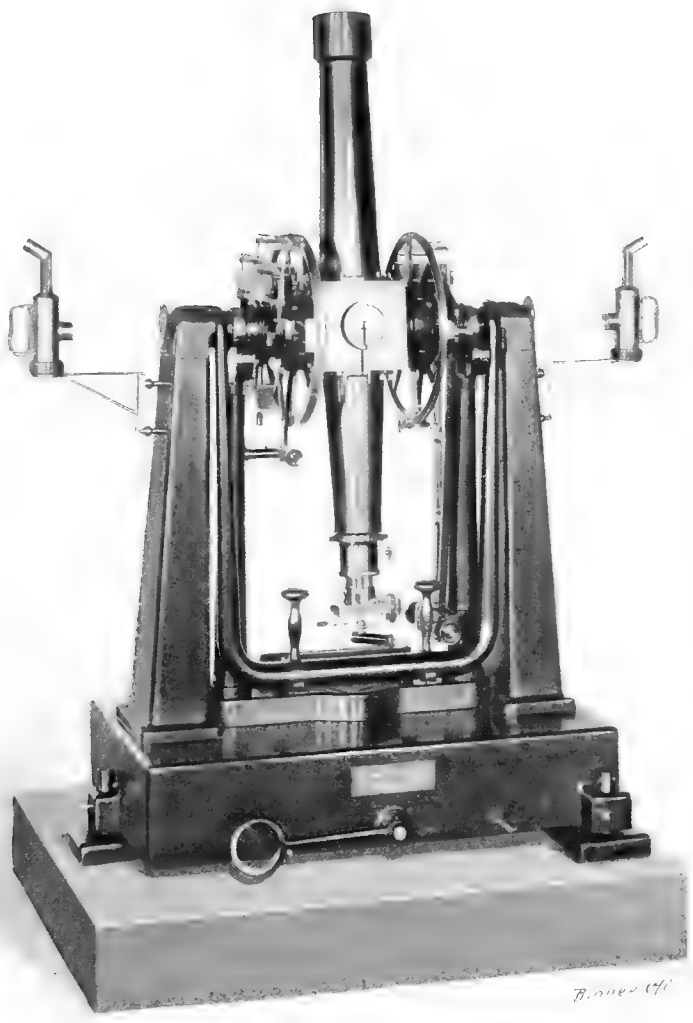
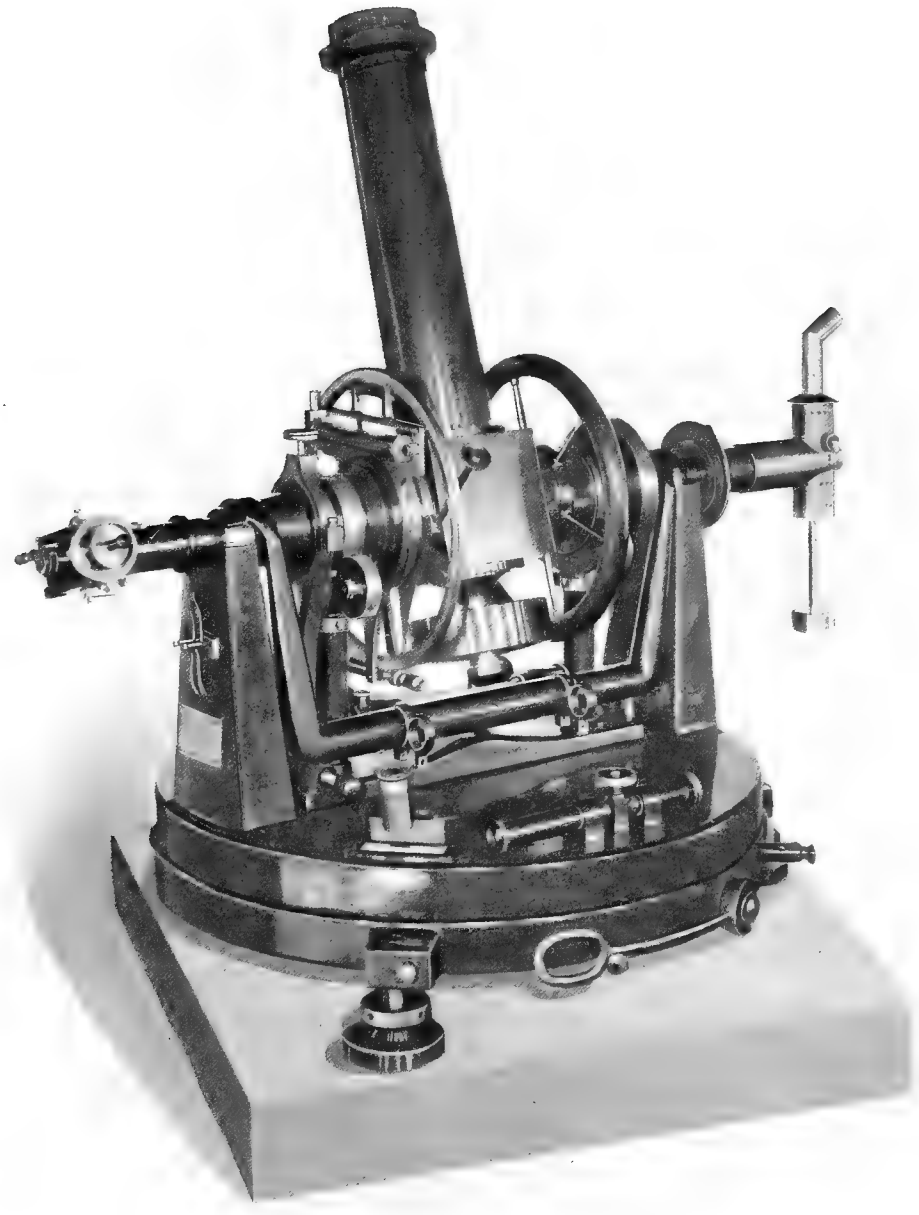
Plate VI



3-INCH COMBINED TRANSIT AND ZENITH TELESCOPE
FOR THE UNIVERSITY OF ILLINOIS

FROM THE WORKS OF
WARNER & SWASEY



3-INCH UNIVERSAL PRISM TRANSIT FOR THE
UNIVERSITY OF PENNSYLVANIA

FROM THE WORKS OF
WARNER & SWASEY

Plate VIII

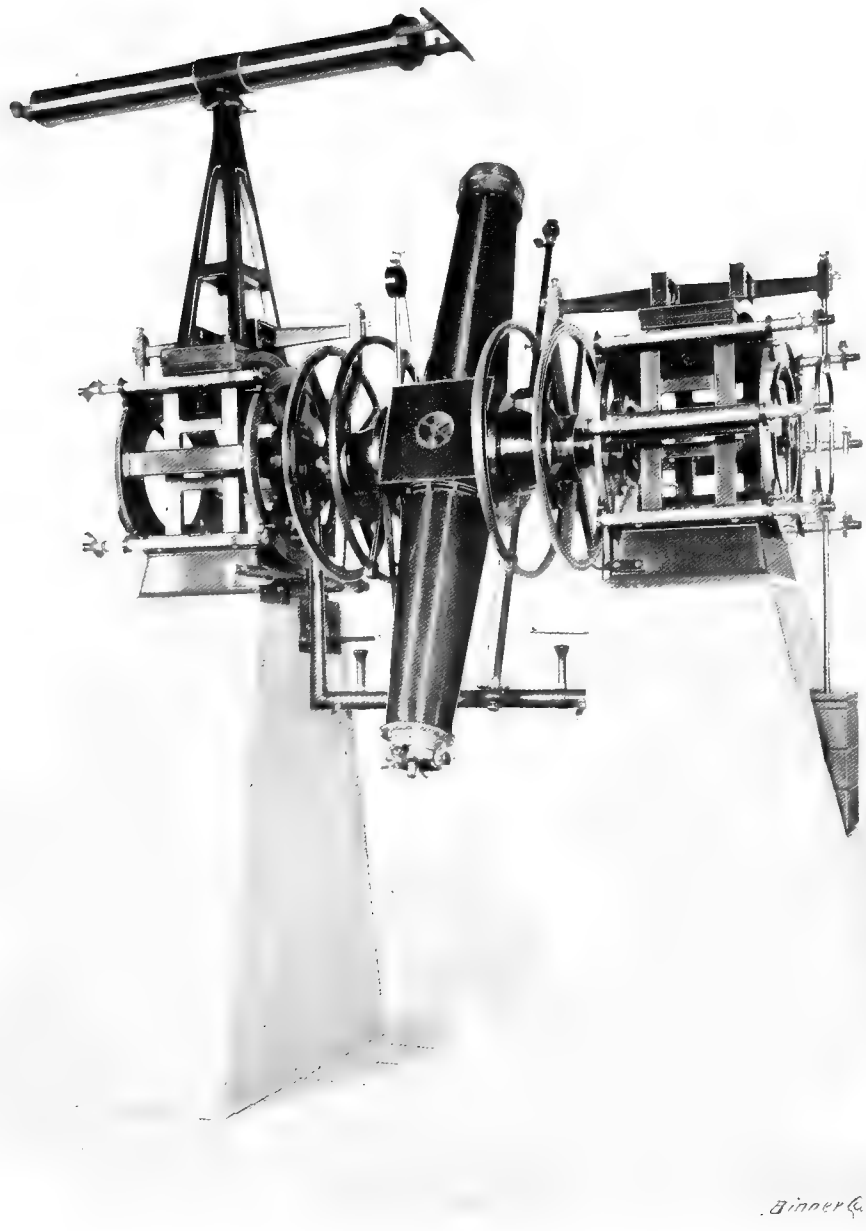
4-INCH ZENITH TELESCOPE FOR THE
UNIVERSITY OF PENNSYLVANIA

FROM THE WORKS OF
WARNER & SWASEY

5-INCH ALT-AZIMUTH FOR THE U. S. NAVAL OBSERVATORY

FROM THE WORKS OF
WARNER & SWASEY

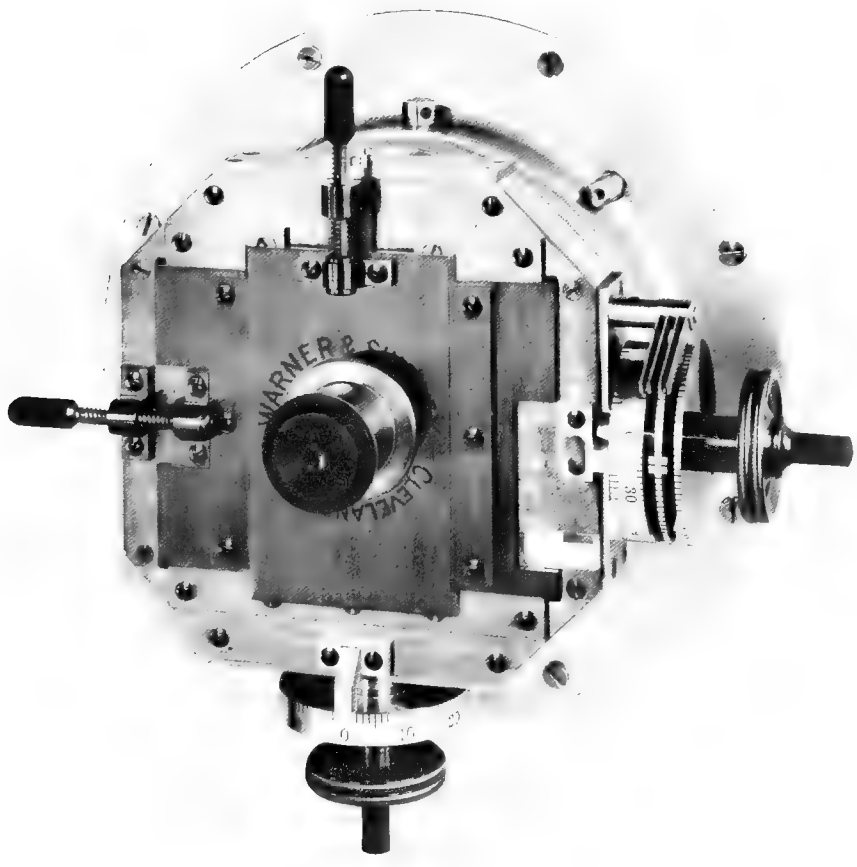
Plate X



6-INCH STEEL MERIDIAN CIRCLE FOR THE
U. S. NAVAL OBSERVATORY

FROM THE WORKS OF
WARNER & SWASEY

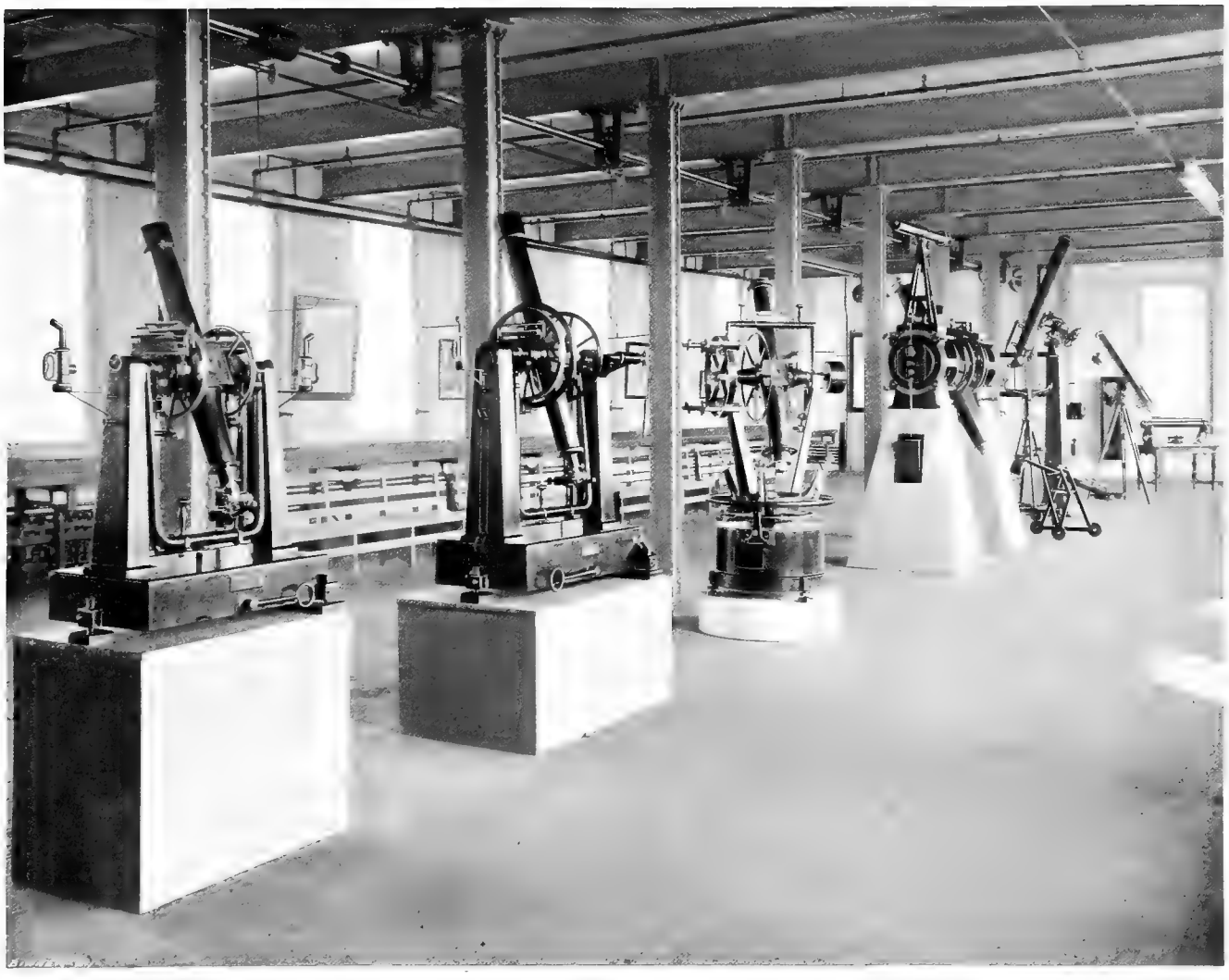
Plate XI



STEEL MICROMETER FOR THE 6-INCH MERIDIAN CIRCLE
OF THE U. S. NAVAL OBSERVATORY

FROM THE WORKS OF
WARNER & SWASEY

Plate XII



SOME ASTRONOMICAL INSTRUMENTS MADE FOR THE U. S. NAVAL
OBSERVATORY, UNIVERSITY OF PENNSYLVANIA
AND OTHERS

IN THE WORKS OF
WARNER & SWASEY

40-INCH AUTOMATIC GRADUATING ENGINE
MADE AND IN USE

AT THE WORKS OF
WARNER & SWASEY

Plate XIV

A. W. FULLER
ARCHITECT

DUDLEY OBSERVATORY, ALBANY, NEW YORK

12-INCH TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

OBSERVATORY OF THE SYRIAN PROTESTANT COLLEGE
BEIRUT, SYRIA

12-INCH TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

Plate XVI

J. W. STEVENS
ARCHITECT

THE GOODSELL OBSERVATORY, CARLETON COLLEGE
NORTHFIELD, MINNESOTA

16-INCH TELESCOPE, AND
17 AND 30-FOOT DOMES

FROM THE WORKS OF
WARNER & SWASEY

EDGAR V. SEELER
ARCHITECT

THE FLOWER OBSERVATORY, UNIVERSITY OF PENNSYLVANIA
PHILADELPHIA, PENNSYLVANIA

30-FOOT DOME
18-INCH TELESCOPE
4-INCH MERIDIAN CIRCLE
4 INCH ZENITH TELESCOPE
3-INCH UNIVERSAL PRISM TRANSIT

FROM THE WORKS OF
WARNER & SWASEY

R. M. HUNT
ARCHITECT

U. S. NAVAL OBSERVATORY, WASHINGTON, D. C.

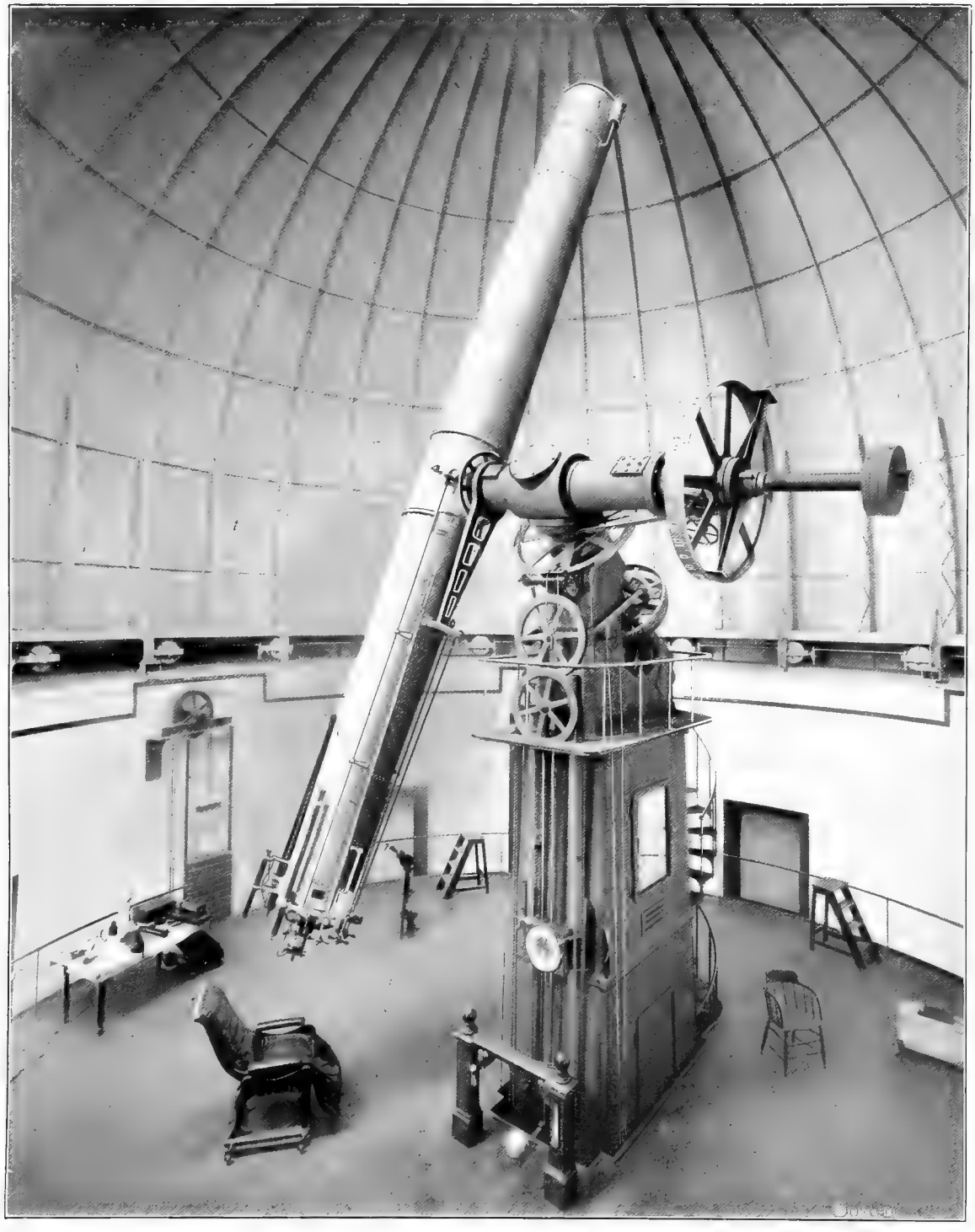
26-INCH TELESCOPE
45 AND 26-FOOT DOMES
6-INCH STEEL MERIDIAN CIRCLE
5-INCH ALT-AZIMUTH, ETC.

FROM THE WORKS OF
WARNER & SWASEY

R. M. HUNT
ARCHITECT

THE U. S. NAVAL OBSERVATORY BUILDING IN WHICH THE
26-INCH EQUATORIAL IS MOUNTED. TELESCOPE,
ELEVATING FLOOR, AND DOME

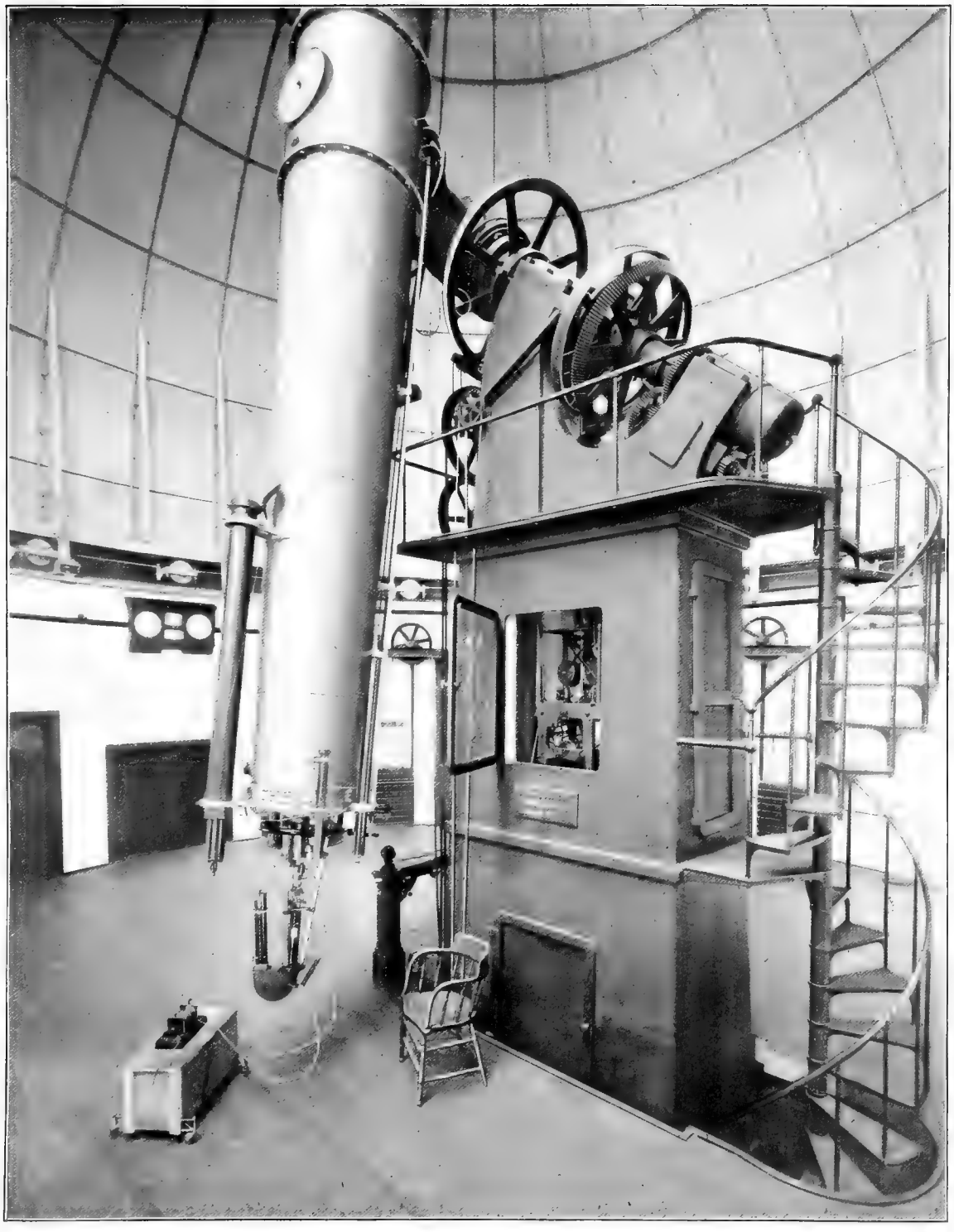
FROM THE WORKS OF
WARNER & SWASEY



26-INCH TELESCOPE OF THE U. S. NAVAL OBSERVATORY

FROM THE WORKS OF
WARNER & SWASEY

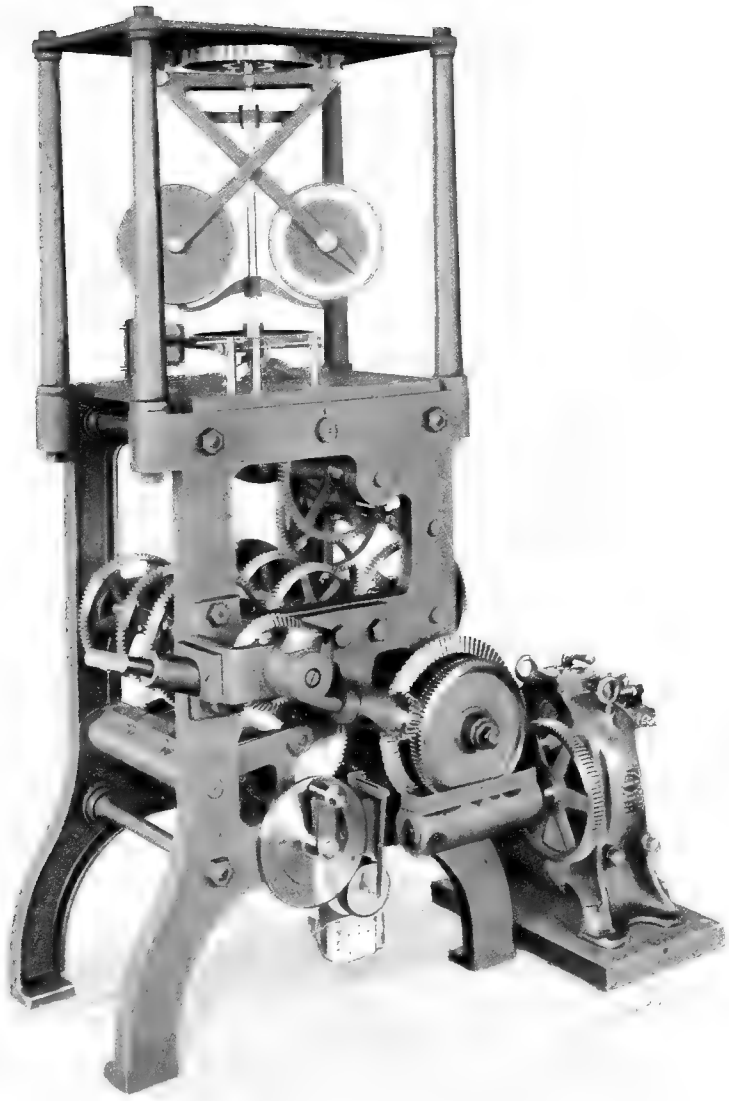
Plate XXI



26-INCH TELESCOPE OF THE U. S. NAVAL OBSERVATORY

FROM THE ARCHIVES OF
WARNER & SWASEY

Plate XXII



DRIVING CLOCK OF THE 26-INCH TELESCOPE OF THE
U. S. NAVAL OBSERVATORY

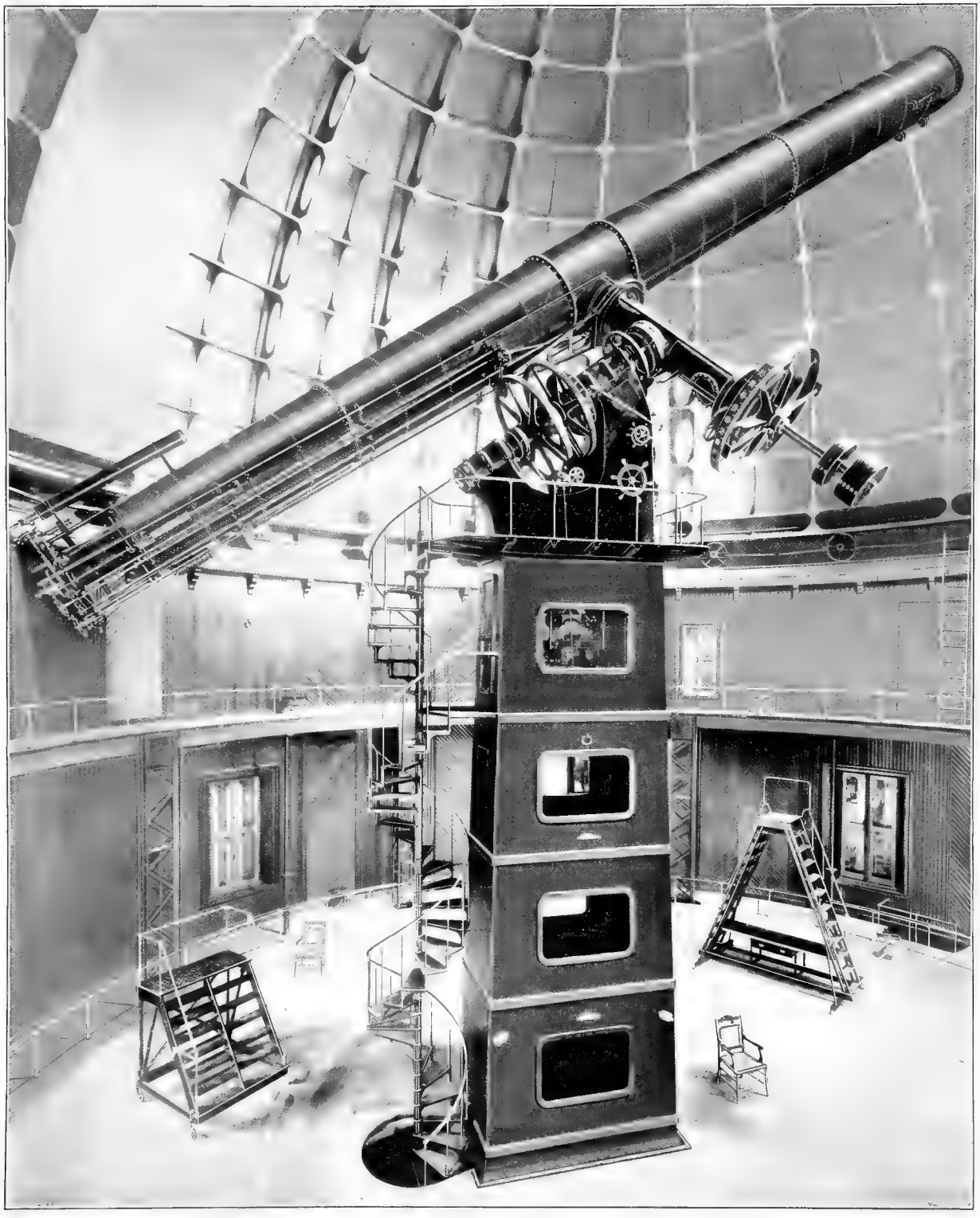
FROM THE WORKS OF
WARNER & SWASEY

WRIGHT & SANDERS
ARCHITECTS

THE LICK OBSERVATORY, UNIVERSITY OF CALIFORNIA
MOUNT HAMILTON, CALIFORNIA

36-INCH TELESCOPE

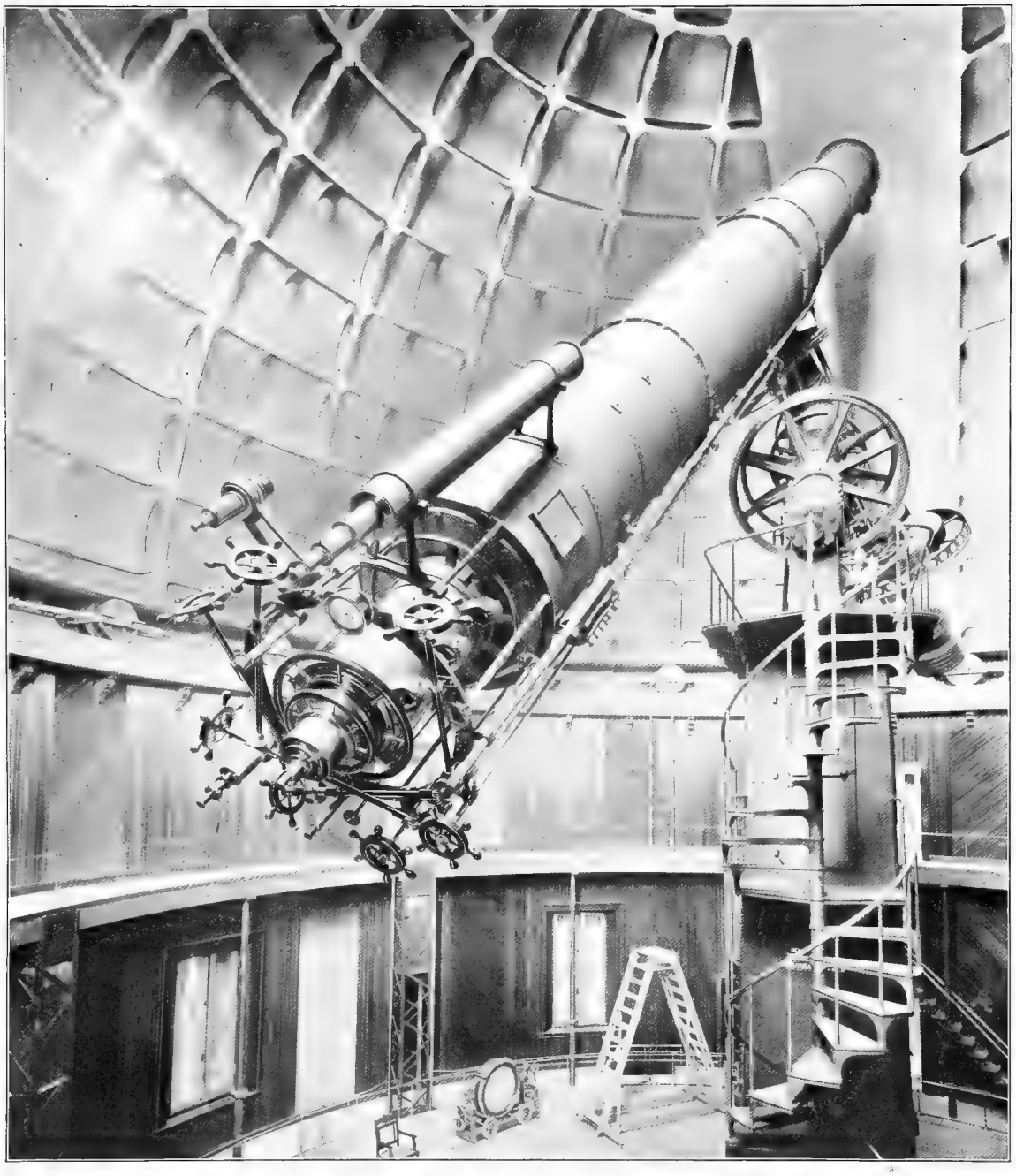
FROM THE MODEL OF
WARNER & SWASEY



36-INCH LICK TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

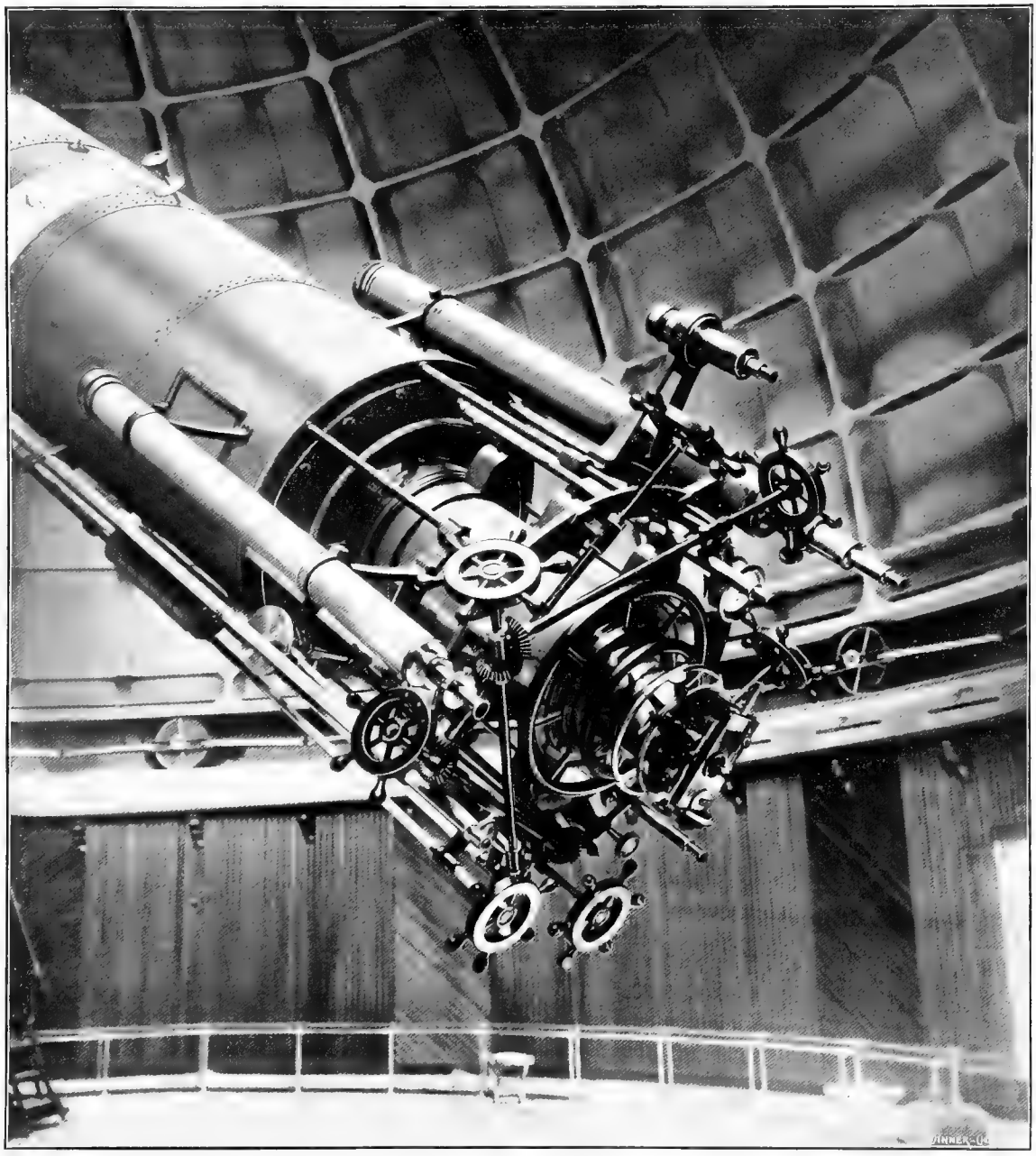
Plate XXV



36-INCH LICK TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

Plate XXVI



EYE END OF THE 36-INCH LICK TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

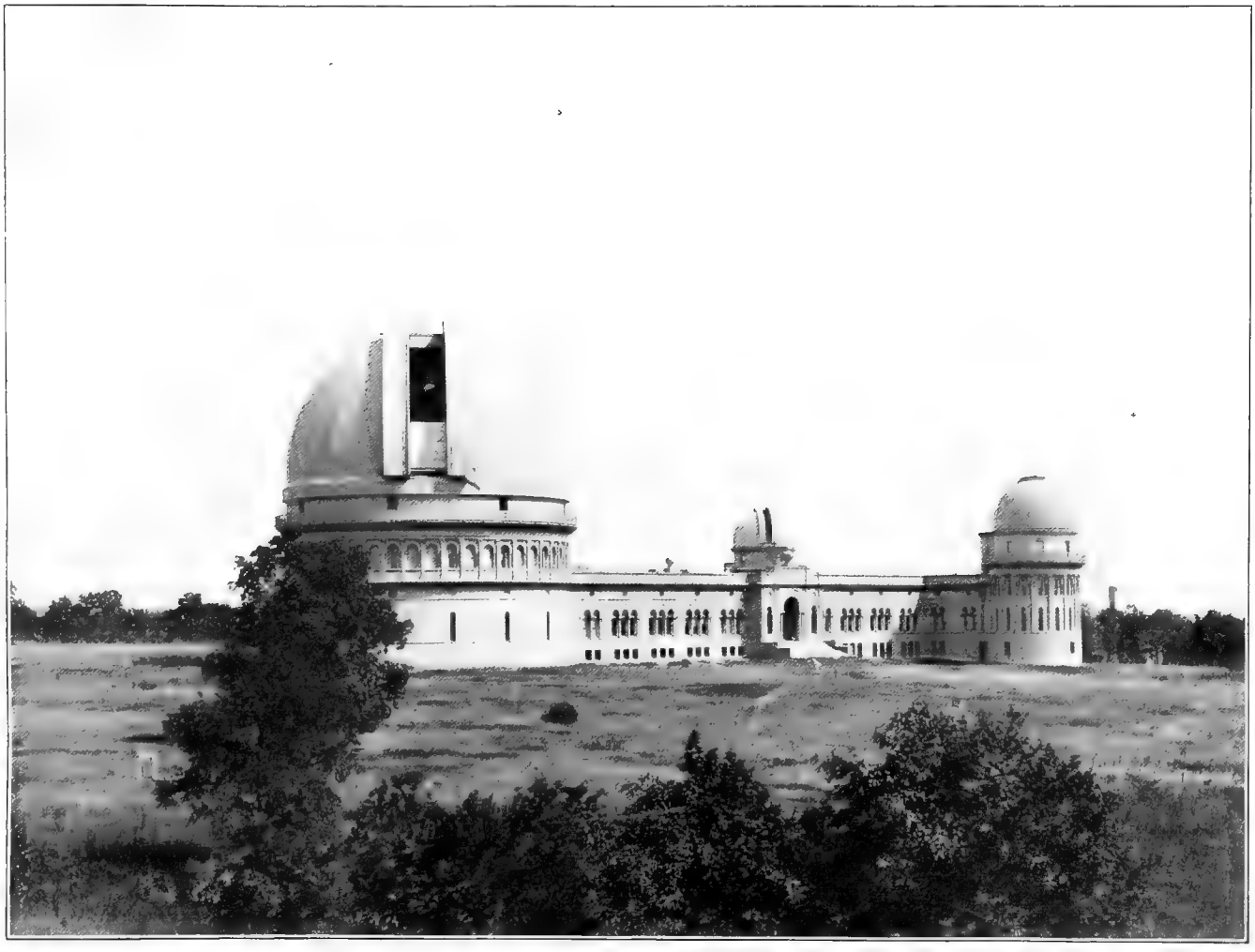
Plate XXVII

THE LICK OBSERVATORY IN WINTER

36-INCH TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

Plate XXVIII

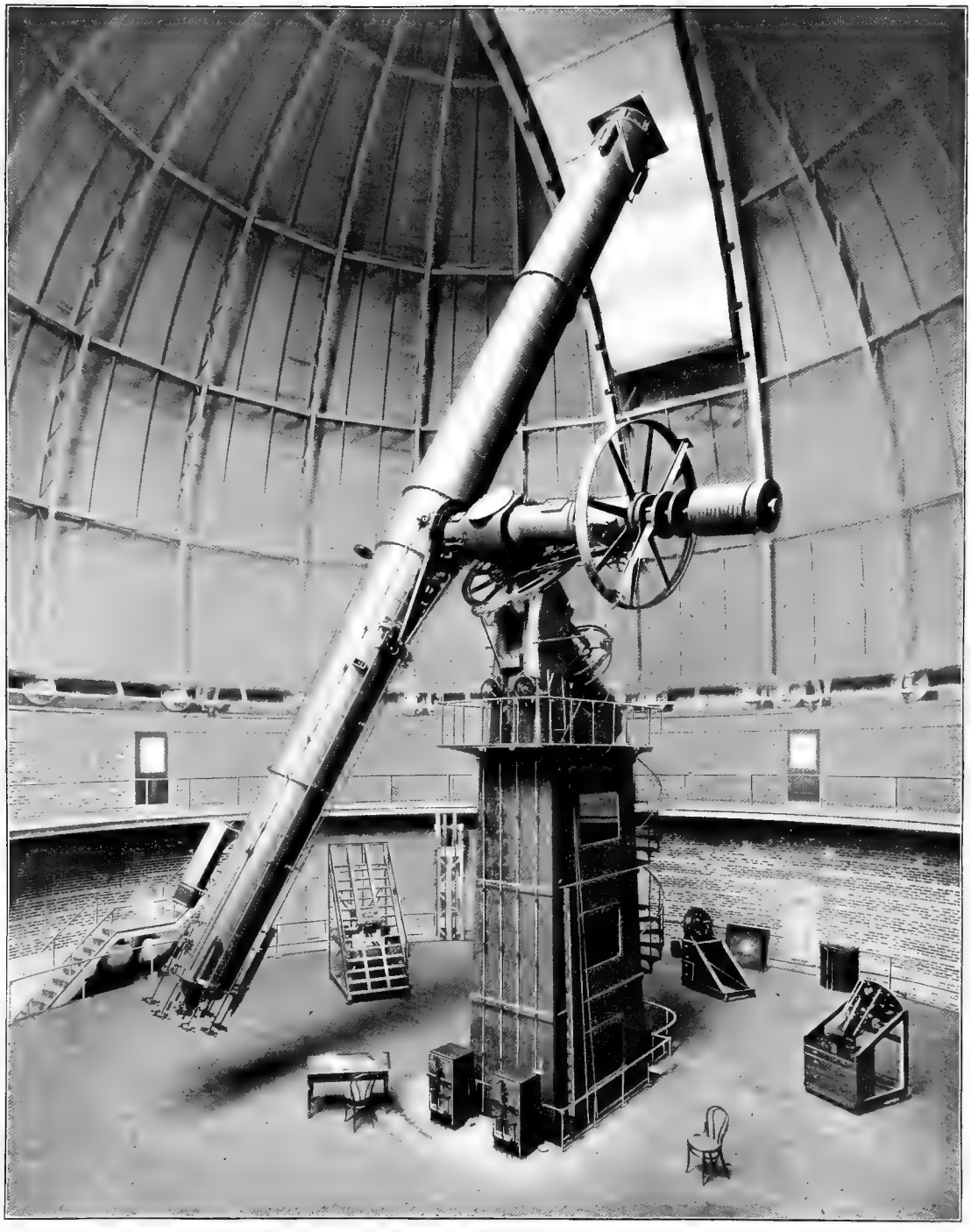


HENRY IVES COBB
ARCHITECT

THE YERKES OBSERVATORY, UNIVERSITY OF CHICAGO
WILLIAMS BAY, WISCONSIN

40-INCH AND 12-INCH TELESCOPES
75-FOOT ELEVATING FLOOR
90, 30 AND 26-FOOT DOMES

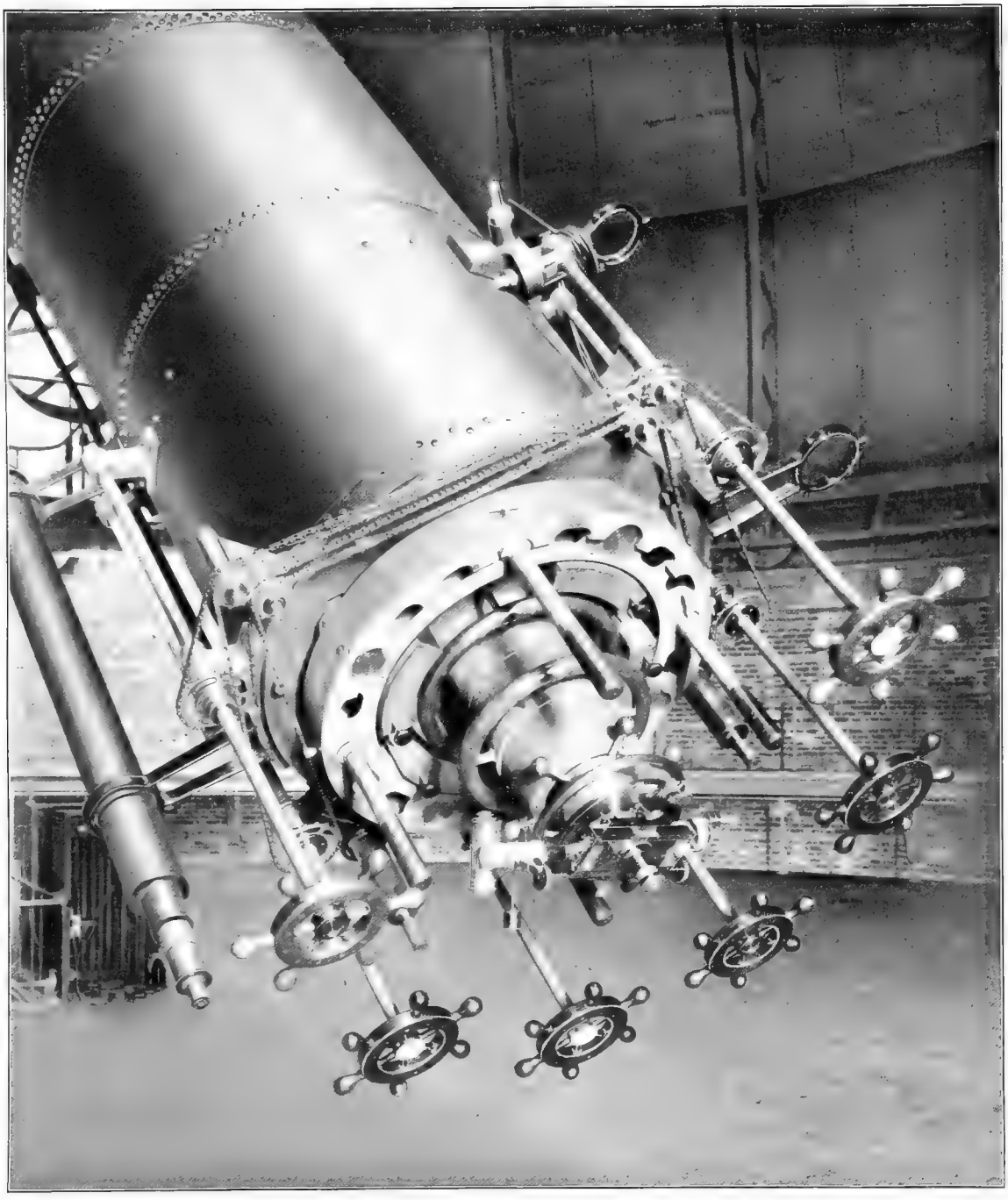
FROM THE WORKS OF
WARNER & SWASEY



40-INCH TELESCOPE OF THE YERKES OBSERVATORY

FROM THE WORKS OF
WARNER & SWASEY

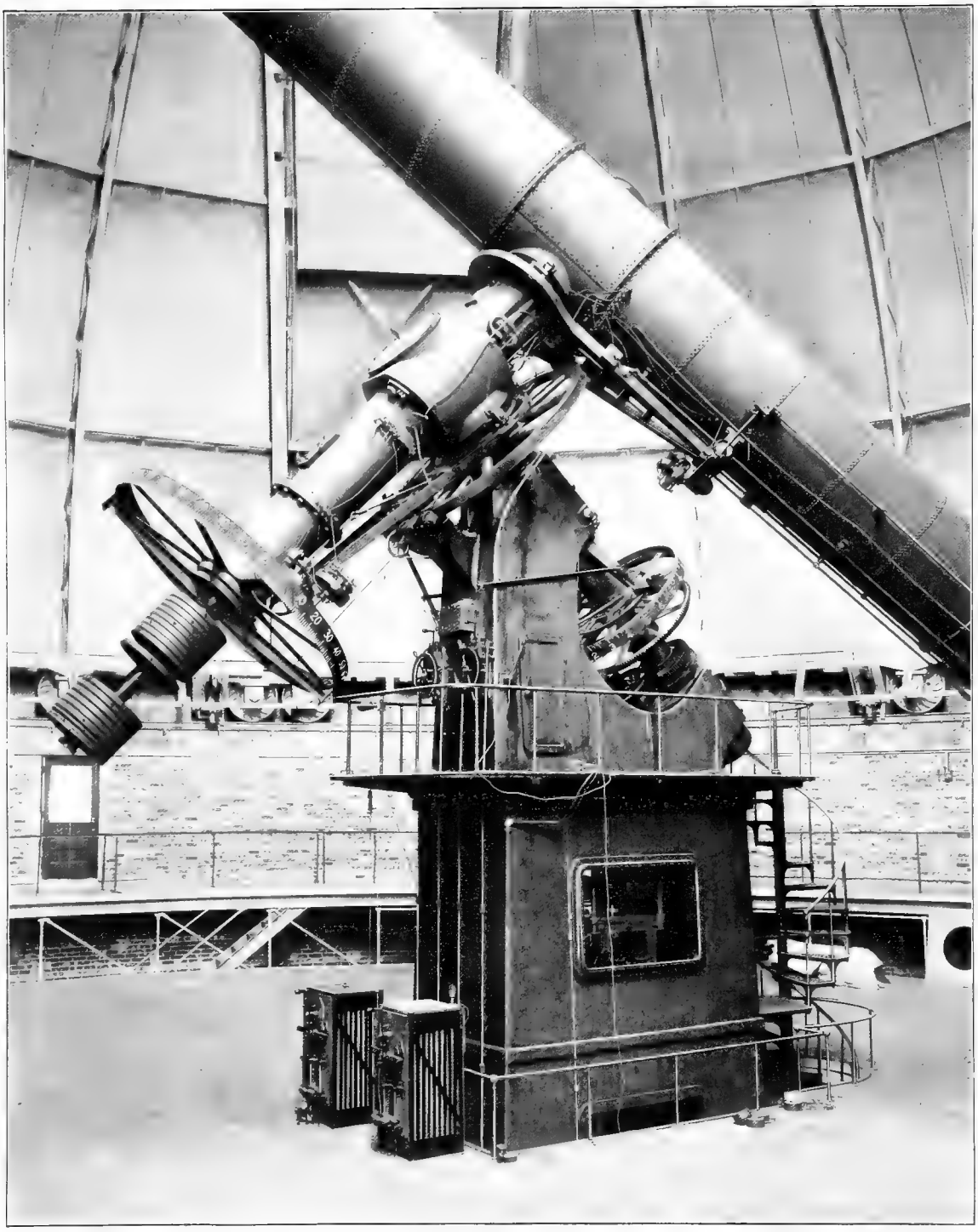
Plate XXX



EYE END OF THE 40-INCH YERKES TELESCOPE

FROM THE WORKS OF
WARNER & SWASEY

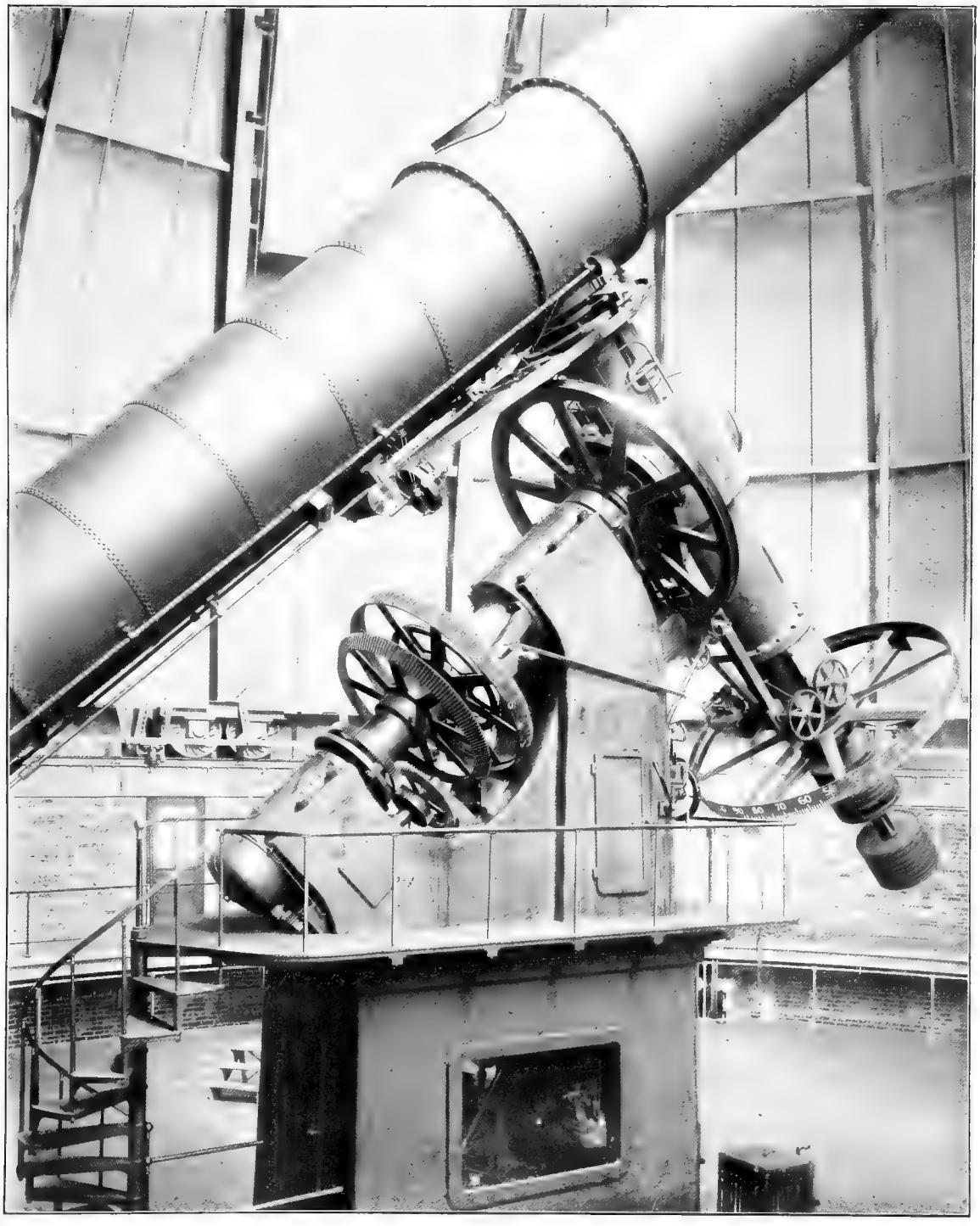
Plate XXXI



EQUATORIAL HEAD OF THE 40-INCH YERKES TELESCOPE
VIEW FROM THE NORTHWEST

FROM THE WORKS OF
WARNER & SWASEY

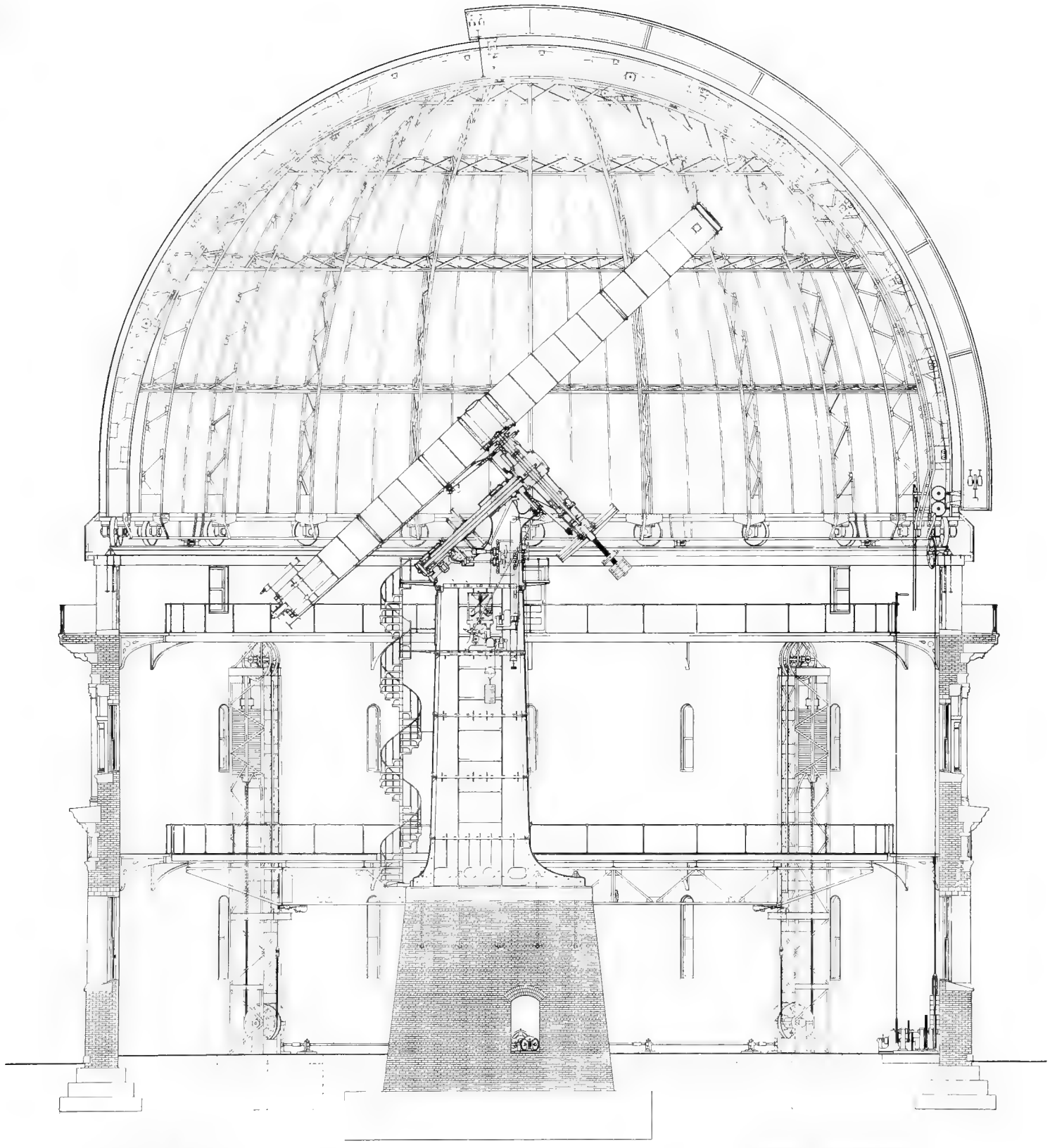
Plate XXXII



EQUATORIAL HEAD OF THE 40-INCH YERKES TELESCOPE
VIEW FROM THE SOUTHEAST

FROM THE WORKS OF
WARNER & SWASEY

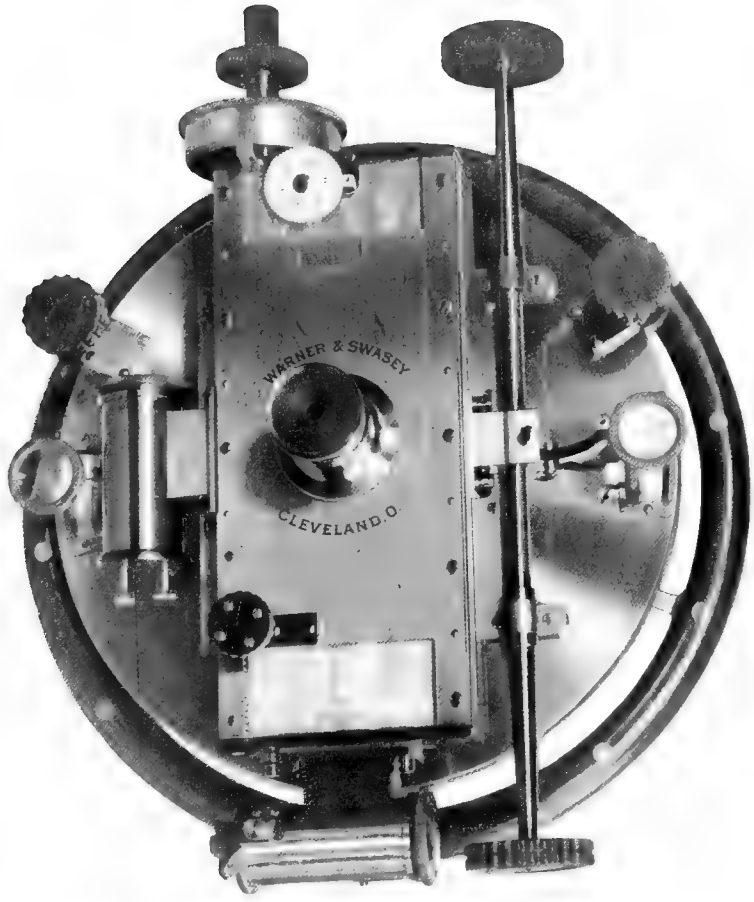
Plate XXXIII

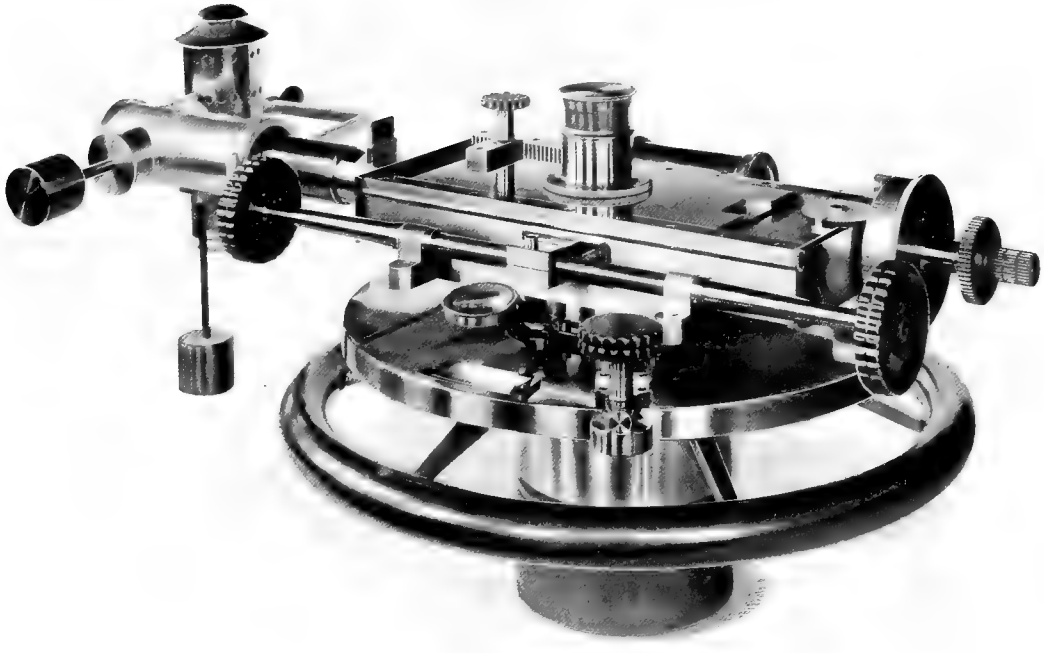


WARNER & SWASEY
CLEVELAND, OHIO, U.S.A.

40 INCH TELESCOPE
60 FT DOME AND 75 FT. ELEVATING FLOOR

Plate XXXIV

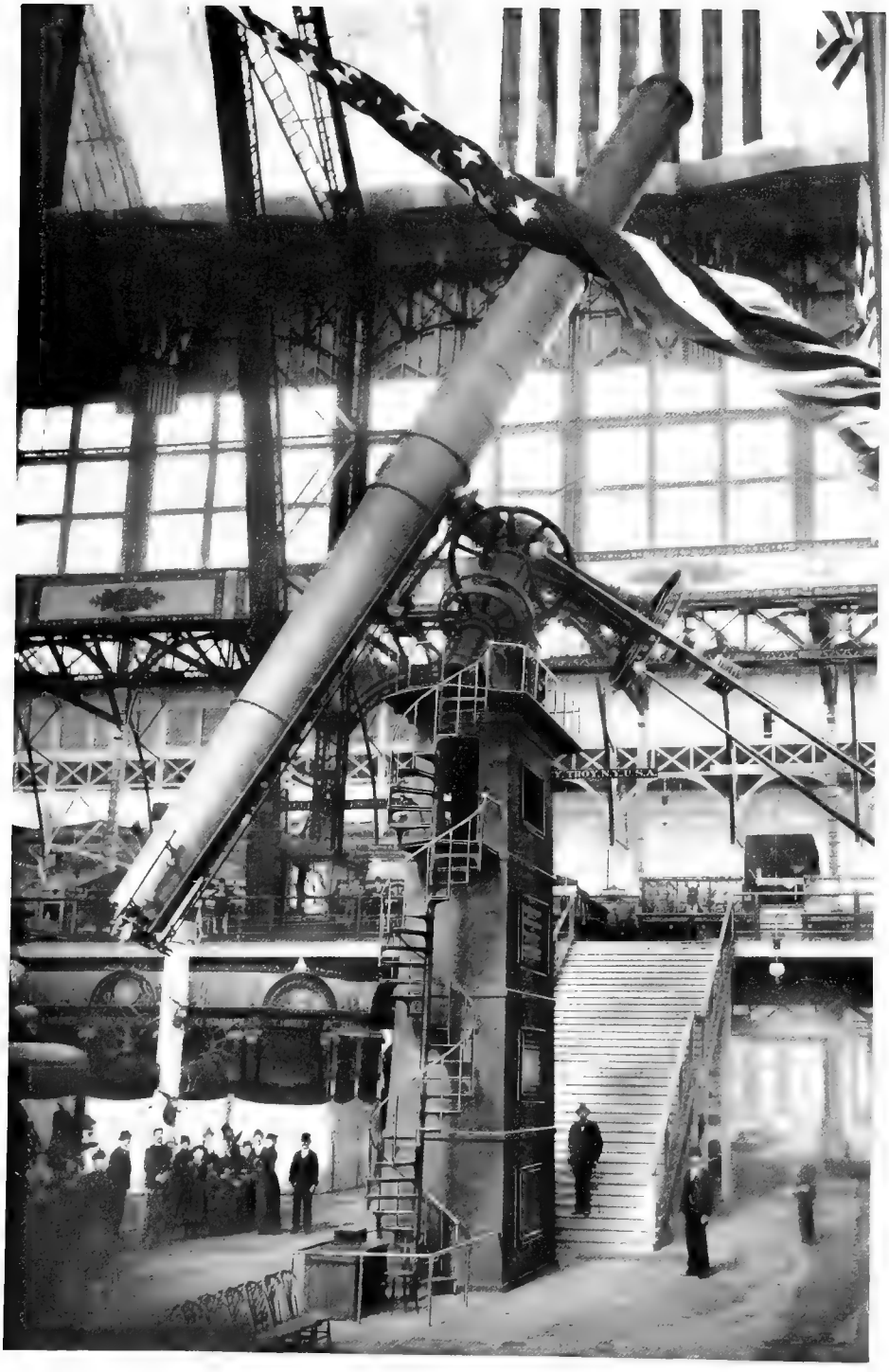




TWO VIEWS OF THE MICROMETER OF THE 40-INCH YERKES TELESCOPE

Plate XXXV

FROM THE WORKS OF
WARNER & SWASEY



THE 40-INCH YERKES TELESCOPE AT THE WORLD'S COLUMBIAN EXPOSITION, CHICAGO, 1893

AS EXHIBITED BY
WARNER & SWASEY

Plate XXXVI